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ABSTRACT

This training package helps Florida educators working with substance-exposed children in day care programs and prekindergarten, kindergarten, and elementary school classrooms. The workbook was developed to be used within a 1- or 2-day training session facilitated by trainers or as a self-instruction learning tool used in conjunction with a 45-minute companion videotape. The areas of the training package are: (1) "Introduction," providing information on the incidence of at-risk children, substance exposure, costs related to substance exposure and special education, and myths about substance-exposed children; (2) "Medical Aspects," describing the most common drugs, physical symptoms of substance use, drug effects on fetal and infant development, and long-term effects on toddlers and older children; (3) "The Home and Community Environment," including information on the child's place in the substance-abusing family, attachment and substance abuse, and risk and protective factors in the community, school, family, and among peers; (4) "The School and Classroom Environment," elaborating on the roles of various staff in working with substance-exposed children, ways to build in protective factors in the classroom and school environment, including a self-evaluation for the school and classroom settings; and (5) "Behaviors and Interventions," discussing motor, language, cognitive, and social/emotional development and suggesting ways teachers and caregivers can work with substance-exposed children in each area within a child-centered curriculum. Each part of the workbook includes an initial page providing directions for completing the lesson within each part. Resource information, copies of the training fact sheets, and lesson worksheets follow each direction page. The workbook concludes with a glossary of relevant terms and acknowledgments. This videotape asserts that there is no typical profile for children who are exposed to drugs during prenatal development and encourages

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educators to identify students' individual strengths and vulnerabilities and tailor interventions to meet their needs. (KB)

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Participant's Workbook [with Videotape]

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Florida's Challenge

A Guide to Educating Substance-Exposed Children

Participant's Workbook

PS 030061

Produced by the Prevention Center • Florida Department of Education • Tallahassee, Florida

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A Guide to Educating Substance-Exposed Children

Participant's Workbook

Produced by The Prevention Center ▪ Florida Department of Education ▪ Tallahassee, Florida

Printed and Distributed by the U.S. Department of Education

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GENERAL INSTRUCTIONS

The Participant Workbook of the training package, "Educating Substance-Exposed Children," was developed to be used within a one- or two-day training facilitated by trainers, or as a self-instruction learning tool. If training is not available, an individual can be self-instructed by using the Participant Workbook along with the video, and following the instructions for each part of the training.

The training for **"Educating Substance-Exposed Children"** includes the following five parts:

Introduction

Part I Medical Aspects

Part II The Home and Community Environment

Part III The School and Classroom Environment

Part IV Behaviors and Interventions

Each part includes an initial page that provides directions for completing the lesson within each part. Resource information, copies of the training fact sheets, and lesson worksheet(s) will follow each direction page.

Review Factsheets A1, A2, A3, and B, if this lesson is being used in a self-instruction mode.

Complete activity entitled "Worksheet: Introduction."

Consumption of alcohol, heroin, and other drugs by pregnant mothers long has been recognized as hurting unborn children. But the huge number of children being prenatally exposed to crack, the variety and lack of knowledge about their problems or classroom strategies to deal with them, have put these children on the public agenda as none before. (*School Board News*, National School Boards Association, August 1991)

Drugs, including alcohol, have been used by pregnant women for centuries. In recent years the problem has intensified dramatically due to the widespread use of crack cocaine and pervades all social strata. Researchers now estimate that one in ten newborns across the United States is prenatally exposed to drugs. In Florida alone, during 1990–91, over 10,000 newborns were estimated to have been born addicted to crack cocaine. At one urban hospital, 12 percent of all newborns tested positive for cocaine. This unfortunate phenomenon has a tremendous impact on health, medical, criminal justice, social service, legal, and education systems. U.S. Government estimates predict that each drug-affected baby will cost $40,000 a year until he/she reaches age five.

Because substance-exposed children may need help to function in a traditional school classroom, the statistics on the prevalence of drug use during pregnancy have serious implications for our educational systems. The absence of consistent physical and emotional nurturing in their early lives may cause these children to have difficulty with even the most basic skills such as processing and following directions, playing with toys, or interacting with others. Further, they are at risk for chronic health problems, social and psychological maladjustment, and school failure. Without intervention, their prospects for a successful future are dim.

Yet there is hope. Substance-exposed children will respond to a classroom environment designed to meet their particular needs. With individualized attention from teachers trained to work with special neurological and behavioral problems, prenatally exposed children are able to grow emotionally, socially, and intellectually. In coordination with other helping professionals working to serve drug-involved families, educators have the opportunity to significantly enhance the lives of substance-exposed children.

In 1988, the Governor of Florida appointed a Cocaine Baby Committee to study the impact that high-risk mothers and infants have on the medical, criminal justice, education, and human service systems. The Florida Department of Education played an active role in helping the committee develop recommendations for the Governor regarding substance-exposed children.

In response to the needs expressed by educators throughout the state, the State Department of Education developed a *Hot Topics* publication in 1989 entitled, ***Cocaine Babies: Florida's Substance-Exposed Children***. The purpose of this booklet is to provide educators with information and the most current research on effective strategies for working with substance-exposed children. After disseminating over 8,000 copies internationally and receiving numerous requests from school districts throughout the State, the Department of Education developed a training video program for school administrators, teachers, and student service providers.

The training video entitled ***Florida's Challenge: A Guide to Educating Substance-Exposed Children*** addresses the following four major topics:

Part I **Medical Aspects**
Part II **The Home and Community Environment**
Part III **The School and Classroom Environment**
Part IV **Behaviors and Interventions**

Florida's Challenge: A Guide to Educating Substance-Exposed Children is intended to be used in conjunction with the *Training Manual and Workbook* in a comprehensive one- to two-day training workshop. However, the workbook and video are designed so that an individual teacher or caregiver can work through them independently if it is not possible to attend a training.

The challenge of meeting the needs of substance-exposed children is here in many day care, pre-kindergarten, kindergarten, and elementary school classrooms. The intent of the training program is to assist educators in working with these special students. For more information about Florida Department of Education materials on substance-exposed children, please write to

Florida Department of Education
Substance-Exposed Children Project
Florida Education Center, Suite 414
325 West Gaines Street
Tallahassee, FL 32399-0400

HIGH-RISK CHILDREN

General Data

I Twenty-three percent of America's children under the age of six live in poverty. (National Center for Children in Poverty)

II About 6.9 percent (260,000) children are born each year at or below normal birth weight (less than 5.5 lbs.). (Education Commission of the States)

III Fetal malnutrition affects 3 to 10 percent of babies. (Education Commission of the States)

IV Fourteen million children of all ages have been exposed to damaging levels of lead, the most apparent damage occurring in the central nervous system. (Education Commission of the States)

V Every year approximately 35,000 babies are born to girls under the age of 15. *(New York Times)*

VI More than one million children are reported to be abused and neglected each year. (Education Commission of the States)

HIGH-RISK CHILDREN

Data on Substance Exposure

I Nearly 24 percent of American women smoke cigarettes. (National Institute on Drug Abuse)

II Over five million women of child bearing age currently use an illicit drug. (National Institute on Drug Abuse)

III Drug abuse during pregnancy affects at least 11 percent of newborns each year. (National Association for Perinatal Addiction Research and Education)

IV Forty thousand babies per year are born with fetal alcohol effects resulting from alcohol use during pregnancy. Seven thousand of these infants have fetal alcohol syndrome. (Education Commission of the States)

V In Florida, during 1990–91, over 10,000 newborns were estimated to have been born addicted to crack cocaine. This represents 5.5 percent of all births. At one urban hospital in the State, 12 percent of all newborns tested positive for cocaine. (Florida Department of Health and Rehabilitative Services)

HIGH-RISK CHILDREN

Data on Cost

I **Hospital costs for an alcohol- or other drug-affected child, until cleared for discharge, average $8,000.** ***(Substance Abuse Report)***

II **U.S. Government estimates indicate that providing hospital and foster care until age five costs $50,000 for each substance-exposed infant.** ***(Substance Abuse Report)***

III **Special education costs an average of $8,000 yearly per child; regular education costs $4,000. A pilot program specifically designed for substance-exposed children, with a 1:8 teacher-pupil ratio costs approximately $17,000 per year per child. (Florida Department of Education and Los Angeles Unified School District)**

MYTHS/FACTS

Substance-Exposed Children

MYTH: Only minority low-income mothers give birth to prenatally drug-exposed infants.

FACT: Drugs are used by pregnant mothers from all races and socioeconomic levels.

MYTH: Once drug-exposed, always drug-exposed.

FACT: With a healthy environment and intervention, drug-exposed children can develop skills necessary for academic achievement.

MYTH: To receive the best services, substance-exposed children must be labeled.

FACT: Labeling any child results in significant costs to the child, educational system, and society.

MYTH: There is a typical profile for a "substance-exposed child."

FACT: All children, including those who are high-risk or substance-exposed, have unique characteristics and can exhibit a variety of behaviors.

The issue of substance-exposed children is a global problem. National and State statistics prove that the problem has a major impact on all systems of society—legal, criminal justice, medical, health, social service, education, etc.—and reaches local communities everywhere. Please respond to the following discussion questions on the effects these high-risk children have on your community. Write your answers on a separate sheet of paper or photocopy this page.

- Describe the overall problem of drugs in your community.

- Describe the scope of substance use by pregnant mothers and the level of prenatal care they can obtain in your community.

- Describe the problems experienced by the high-risk population of children in your community.

- Summarize the impact that pregnant drug-using mothers and substance-exposed infants/children have on the following systems:

LEGAL

CRIMINAL JUSTICE

MEDICAL

HEALTH

SOCIAL SERVICE

EDUCATION

View Part I, "Medical Aspects" of the training video entitled ***Florida's Challenge: A Guide to Educating Substance-Exposed Children***, if this lesson is being used in a self-instruction mode.

Read Resource Information Part I, "Medical Aspects."

Review Factsheets A and B.

Complete Worksheet I.

Drug-exposed babies are nothing new. Cigarettes, alcohol, heroin and other substances can affect developing fetuses. Alcohol can damage the central nervous system—it's the leading cause of mild to moderate mental retardation—and babies born to marijuana and cigarette smokers may be irritable and go through withdrawal the way babies of heroin users do. But crack cocaine can cause all that trouble and more. (Ft. Myers News Press, 1991)

SUBSTANCES

Among substance-abusing pregnant women, polydrug use tends to be the rule. Substances such as alcohol and nicotine, for example, are often used in conjunction with a primary "drug of choice," such as crack cocaine. This makes it difficult to identify the particular effects on the fetus of specific drugs in isolation from one another. No mind-altering drug, however, may be used by a pregnant woman without risk to the developing baby. The following information describes the most common drugs of choice.

Alcohol is the most widely used and abused drug. Ethanol, the active ingredient in alcohol, acts as a central nervous system depressant to slow down bodily functions such as heart rate, pulse, and respiration. Alcohol affects different people in different ways, depending on the amount consumed, body weight, gender, the presence of food in the body, and the expectations one holds. In small quantities, alcohol may bring on feelings of well-being and relaxation; in larger amounts it can cause intoxication, sedation, unconsciousness, and even death.

Cocaine is a short-acting, powerful central nervous system stimulant that is extracted from the South American coca bush. The cocaine (cocaine hydrochloride) available in this country is a pure white crystalline powder combined with adulterants added to stretch the supply and increase the seller's profit. Talc, flour, laxatives, sugar, and local anesthetics are just a few of the additives used to cut cocaine. Cocaine is inhaled through the nose, injected into a muscle or vein, or converted into a smokable form that is called "freebase."

Crack is a nearly pure form of cocaine that comes in the form of a light brown or milky white pellet or "rock." Because it is smoked, crack delivers a burst of cocaine to the brain in less than 15 seconds, causing a dramatic "high." Individuals who smoke crack report feeling extremely powerful and sexually aroused. Yet, within minutes, the user is left craving more, as the euphoria is replaced by severe depression, paranoia, and irritability. In this way, crack users rapidly enter into a continuous cycle that can leave them physically and psychologically addicted in as little as two weeks.

Marijuana is a crude drug made from the plant Cannabis Sativa. THC (delta-9-tetrahydrocannabinol) is the main mind-altering ingredient. Smoking marijuana allows as many as 2,000 secondary chemicals to enter the body. A marijuana cigarette or "joint" is made from the dried particles of the plant. The strength of marijuana's effect depends on the amount of THC it contains.

PCP is phencyclidine, a synthetic drug first developed in the 1950's as an anesthetic agent for surgery. Today there is no legal use for PCP. Notorious for its variety of effects and unpredictability, PCP acts at different times as a stimulant, depressant, or hallucinogen. PCP comes in several different

forms: in its original form as a white or yellowish-white powder or as a tablet or capsule. Different methods of use induce different effects. The most popular method is smoking marijuana, parsley, or tobacco sprinkled with PCP powder. PCP can also be inhaled, injected, or taken orally by capsule or tablet.

LSD, or lysergic acid diethylamide, is a derivative of ergot, a fungus that grows on rye and other grains. LSD was originally used to treat mental disorders, alcoholism, epilepsy, and terminal cancer. Despite its later illicit status, it became popular when interest in its alleged mystical effects grew. LSD is a potent hallucinogen or psychedelic drug, even when taken in extremely small amounts. One ounce is able to supply about 300,000 doses. LSD is odorless, colorless, and tasteless. In its liquid form it is placed in or on other substances such as sugar cubes, postage stamps, "microdots" (tiny balls of compacted powder), "windowpanes" (small squares of gelatin sheets or cellophane), and "blotters" (small squares of paper) and licked off or swallowed.

Opiates are central nervous system depressants which are often used medically to relieve pain. Opiates, which are classified as narcotics, include such drugs as heroin, codeine, opium, and morphine. They are derived from a resin taken from poppy plants found in countries throughout the world. Some opiates, like Demerol, Darvon, Percodan, Dilaudid, and Methadone, are synthesized by modifying the chemicals found in opium. All have a high potential for abuse. Opiates are found in a variety of forms, including powders, liquids, tablets, syrups, and capsules.

Tobacco, although a legal product, is as addictive as cocaine and heroin. The addictive ingredient in tobacco is nicotine. Nicotine restricts blood vessels and the carbon monoxide in smoke reduces the amount of oxygen in the bloodstream by as much as 15 percent. Chemicals absorbed from smoke flow to the fetus and increase the risk of miscarriage, birth defects, lowered birth weight, Sudden Infant Death Syndrome, learning deficiencies, and growth retardation.

SYMPTOMS

Professionals who work with pregnant women using alcohol and other drugs typically fail to recognize and confront substance use in their clients. A national hospital incidence survey conducted by the National Association for Perinatal Addiction Research and Education (NAPARE), for example, found that substance abuse in pregnancy is one of the most commonly missed of all obstetric and neonatal diagnoses. According to NAPARE president, Dr. Ira Chasnoff, "Many of these cases are unrecognized until after birth when the baby is born addicted, often with severe physical or neurological damage." This lack of recognition, Chasnoff asserts, accounts for the high rate of morbidity and mortality in these infants.

DRUG EFFECTS AND CHARACTERISTICS

DRUG	PHYSICAL SYMPTOMS	CHARACTERISTICS
Cocaine (coke, rock, crack, freebase)	Brief intense euphoria, elevated blood pressure and heart rate, restlessness, excitement, feelings of well-being followed by depression	Insensitivity to pain, nausea, vomiting, watery eyes, runny nose, needle marks on arms, pinpoint pupils, cold moist skin, weight loss; needles, syringes, spoons
Alcohol (beer, wine, liquor)	Intoxication, slurred speech, unsteady walk, relaxed inhibitions, impaired coordination, slowed reflexes	Smell of alcohol on clothes or breath, intoxicated behavior, hangover, glazed eyes
Marijuana (pot, dope, grass, weed, herb, hash, joint)	Altered perceptions, red eyes, dry mouth, reduced concentration and coordination, euphoria, laughing, hunger	Odor of burnt hemp rope, increased appetite; rolling papers, pipes, dried plant material, roach clips
Hallucinogens (acid, LSD, PCP, MDMA, Ecstasy, psilocybin mushrooms, peyote)	Altered mood and perceptions, focus on detail, anxiety, panic, nausea, synaesthesia (simultaneous perception, for example smelling colors, seeing sounds)	Capsules, tablets, "microdots," blotter squares
Narcotics (heroin, junk, dope, Black Tar, China White, Demerol, dilaudid, D's, morphine, codeine)	Euphoria, drowsiness, insensitivity to pain, nausea, vomiting, watery eyes, runny nose	Needle marks on arms, pinpoint pupils, cold moist skin; needles, syringes, spoons

THE EFFECTS OF ALCOHOL AND OTHER DRUGS ON THE DEVELOPING FETUS AND INFANT

The effects of prenatal exposure to alcohol and other drugs vary according to the particular circumstances of each child's pre- and postnatal experiences. The frequency, quantity, and timing of use, for example, all influence the extent of damage to the fetus. Poor maternal nutrition and inadequate health care can compound the harmful influence of the toxic substances used by the mother during pregnancy. Further, prenatally exposed babies may fail to thrive after birth as a result of poor feeding habits, a lack of care, or inadequate bonding and attachment between mother (or caregiver) and child. In spite of these problems, if parents, teachers, and other helping professionals meet the substance-exposed child's special needs as early as possible, the long-term consequences of prenatal exposure to alcohol and other drugs can be significantly reduced.

Not all babies exposed to drugs and alcohol in the womb are born "hooked." Some babies are born "clean," but may have sustained injury as a result of exposure to some level of alcohol and/or other drugs. Others look perfectly normal at birth, but gradually display symptoms that suggest previous exposure. This variety of possible effects makes identification and intervention even more challenging.

Some people believe that the fetus is protected from dangerous substances by the mother's placenta. Actually, the opposite is true. Alcohol and other drugs flow rapidly and easily from the mother's bloodstream through the placenta to the baby. Because the fetal liver is not fully developed, such substances also remain in the fetus for a much longer time than in the mother. Cocaine, for example, has been found in six-day-old infants who were exposed to the drug two to three days before birth.

The three categories of effects suffered by infants affected by prenatal exposure to alcohol and other drugs are

- **Addiction**—The newborn undergoes withdrawal, after which it may grow and develop more or less normally, as if addiction had not been part of his or her short life experience.
- **Toxicity**—Toxic effects cause direct injury to the developing fetus.
- **Teratogenicity**—More complex than addiction or toxicity, teratogenic effects may or may not appear at birth. Drugs that act on metabolic, endocrine, or central nervous system functions cause structural damage, the symptoms of which may not emerge until childhood or adolescence.

Cocaine

When a pregnant woman uses cocaine, the risks to mother and child are immediate. Cocaine decreases blood flow to the fetus, cutting off the passage of growth-enabling nutrients and oxygen. In addition, studies have found that women who use cocaine during pregnancy are more likely to smoke cigarettes and have poor weight gain, which can inhibit the development of the fetus.

In the early months of pregnancy, the use of cocaine can cause a spontaneous abortion. Used later, cocaine may result in premature labor, a fetal stroke causing irreversible brain damage, or a stillbirth delivery. In some cases, neurological and respiratory problems may result, or organs may be underdeveloped or malformed. Sometimes the placenta pulls away from the wall of the uterus before labor begins, causing extensive bleeding. This condition, known as *abruptio placentae*, can be fatal to both mother and child.

Babies exposed to cocaine in utero may remain irritable for six to eight weeks after birth and may not respond well to their environments for two to three months. Other signs of exposure to cocaine include tremors, usually stiff muscles, irregular sleeping patterns, poor feeding patterns, increased respiratory and heart rates, and difficulty sucking and swallowing. Persistence of symptoms beyond the first few weeks of life suggests to some authorities a more lasting central nervous system change rather than a withdrawal pattern. In addition, some researchers have found that the rate of Sudden Infant Death Syndrome (SIDS) is ten times greater for substance-exposed infants than for nonsubstance-exposed infants.

Neurobehavioral evaluations at three days have revealed that prenatally exposed infants are largely unable to respond to the human voice and face, are deficient in the ability to interact with others, and are highly unstable emotionally. Very sensitive to even the mildest environmental stimulation, newborns affected by cocaine frequently cry. They do not fall asleep readily and once asleep are easily awakened. According to Dr. Diana Kronstadt of the Far West Laboratory for Educational Research and Development, "The distress of these newborns is obvious and yet they are unable to calm themselves."

Alcohol

Frequent or heavy drinking throughout pregnancy may result in various serious birth defects, the most severe of which is Fetal Alcohol Syndrome (FAS). Children with FAS demonstrate three kinds of impairments: 1) growth retardation before and/or after birth, 2) abnormal features of the face and head, and 3) evidence of a central nervous system abnormality (brain damage), often resulting in intellectual impairment. FAS is the third most common cause of mental retardation.

Some babies affected prenatally by alcohol do not exhibit the full set of characteristics of FAS. Research indicates that there are approximately twice as many of these "mildly affected" children as there are "severely affected" children with FAS. Fetal Alcohol Effects (FAE) is the term used to describe the variety of potential impairments associated with lower levels of maternal alcohol use during pregnancy. FAE may include any of the following conditions: ear and eye defects, heart defects, physical deformities, joint and limb malformations, hemangiomas (a type of birthmark), cerebral palsy, mental retardation, and neurological abnormalities.

Prenatal exposure to alcohol also may result in subtle central nervous system (CNS) deficits that cause behavioral and learning abnormalities. Carefully controlled studies have identified a number of these functional FAE, including hyperactivity, decreased learning ability, poor locomotion, lack of coordination, developmental delays, sucking and feeding difficulties, and response inhibition.

Infants with FAE may also show signs of impaired motor development, decreased capacity to self-regulate physiological states, and sleep problems. Further, at eight months of age, infants of heavy drinkers have experienced significant decrements in height, weight, and head circumference. Because FAE babies are often irritable and restless sleepers, infants of heavy drinkers may also have difficulties with bonding and may suffer abuse from parents.

Marijuana

Marijuana can cause premature delivery and even withdrawal symptoms in newborns. Like babies born to cigarette-smoking pregnant women, newborns who have been exposed to marijuana in utero may be significantly lower in birth weight and shorter in length. As babies, they may be irritable and tremulous and deficient in visual functioning. They are also at increased risk for SIDS.

Heroin and Other Narcotics

When a pregnant woman uses heroin or other narcotics, the chance that the fetus will be lost due to miscarriage or stillbirth is increased. The infant is likely to have low birth weight and small head size (a sign of diminished brain growth). Other problems include withdrawal symptoms, difficulty in responding to the human voice and touch, and increased risk of SIDS. A mother using heroin and other narcotics intraveneously is also at greater risk for hepatitis (both acute and chronic), endocarditis, and AIDS.

Tranquilizers

Babies of mothers who use tranquilizers often go through withdrawal after birth, suffering such symptoms as reduced ability to nurse, hypothermia, and breathing abnormalities. In addition, some tranquilizers are suspected of causing congenital abnormalities.

Barbiturates

Sudden withdrawal from barbiturates by the mother or baby may result in seizures or even death. The withdrawal symptoms resemble those of heroin-addicted babies, but tend to be more prolonged and severe.

THE EFFECTS OF ALCOHOL AND OTHER DRUGS ON TODDLERS AND OLDER CHILDREN

The long-term consequences of prenatal exposure to alcohol and other drugs vary considerably, reflecting differences in the child's rearing environment as well as those conditions present at birth. Some children with severe symptoms are unable to function in an average classroom. Many others, typically with normal intelligence, demonstrate subtle impairments not easily associated with prenatal exposure to alcohol and other drugs. Researchers are just beginning to investigate the less obvious deficits of these children. All agree that early identification and intervention can significantly help to remediate learning and behavioral problems.

HIGHLIGHTS OF MAJOR RESEARCH STUDIES

Prenatal Drug Use in St. Petersburg, Florida

In 1989, a study was conducted by the National Association for Perinatal Addiction Research and Education (NAPARE) in conjunction with Operation PAR, a St. Petersburg, Florida, drug treatment program. The purpose of the study was to look at the prevalence of drug use during pregnancy in a sample of pregnant women in Pinellas County, Florida, and to examine aspects of the reporting of such cases. In Florida, hospitals are required to notify local health departments when an infant is born with drugs in its system or the mother is an addict. The study involved 715 pregnant women from both public and private health care sectors. From January 1, 1989, until June 10, 1989, a urine sample for toxicology was collected from every woman during her first prenatal visit to any of the five public health clinics or to 12 of the 20 private obstetric offices in the county. Urine samples were tested for cocaine, marijuana, opiates, and alcohol.

FINDINGS

- 14.8 percent of all women tested positive for cocaine, marijuana, opiates, and/or alcohol.
- 11 percent of women receiving private care, and 16.3 percent of women receiving care in a public clinic, tested positive for alcohol and other drugs.
- Although white women (15.4 percent) had a slightly higher rate than black women (14.1 percent), differences in the rates of those testing positive for alcohol and other drugs were not significant.
- Marijuana was the drug used most often in the overall group.
- Cocaine was used by 7.5 percent of black women and 1.8 percent of white women.
- Because alcohol is metabolized and excreted eight hours after consumption, it is likely that the use of alcohol was more frequent than the urine tests could determine.
- Although white women were 1.09 times more likely than black women to have used drugs or alcohol, black women were 9.58 times more likely to be reported to county health authorities for substance abuse during pregnancy.

Source: Chasnoff, I., Landress, H., and Barrett, M. (1990). The prevalence of illicit drug or alcohol use during pregnancy and discrepancies in mandatory reporting in Pinellas County, Florida. The New England Journal of Medicine, 322, 1202–1204.

Intellect, Play, and Attachment in Polydrug-Exposed Children at 18 Months

Dr. Judy Howard and associates from the University of California at Los Angeles's Department of Pediatrics compared 18 prenatally drug-exposed 18-month-old toddlers with a comparable, non-exposed group. The researchers examined intellectual functioning, quality of play, and security of attachment to the parent or parent figure.

FINDINGS

- Drug-exposed toddlers had significantly lower scores on developmental tests, but scores fell within the low-average range.
- In an unstructured, free play situation requiring self-organization, self-initiation, and followthrough without the assistance of an examiner, the drug-exposed toddlers showed striking deficits.
- For the majority of drug-exposed toddlers, play consisted of scattering, batting, and picking up and putting down toys rather than the representational play (sustained combining of toys, fantasy play, or curious exploration) more common in the comparison group.
- Because representational play is associated with language acquisition, problems in language development are anticipated for drug-exposed children.
- The drug-exposed toddlers had more impulsive, less goal-directed behavior than the comparison group.
- The drug-exposed toddlers were less securely attached to their caregivers than the comparison group.
- The rearing environment, through fostering secure attachment, lessened the impact of prenatal drug exposure, but did not eliminate its effects entirely.

Source: Howard, J., Beckwith, L., Rodning, C., and Kropenske, V. (1989). The development of young children of substance-abusing parents: Insights from seven years of intervention and research. Zero to Three, 9, 8–12.

POSSIBLE EFFECTS OF PRENATAL EXPOSURE TO COCAINE

In the Fetus

- Miscarriage
- Premature labor
- *Abruptio placentae*
- Cerebral stroke
- Stillbirth delivery

In the Infant

- Low birth weight
- Small head circumference
- Impaired motor development
- Seizures and strokes
- Abnormally formed internal organs
- Rapid respiratory and heart rate
- Irregular sleeping patterns
- Abnormal sucking and swallowing
- Disorientation
- Frequent gaze aversion
- Atypical motor development
- Poor interactive capacities
- Alterations in bonding and attachment
- Increased risk of child abuse and neglect
- Increased risk of SIDS
- Increased risk of AIDS and syphilis (from mother)
- Irritability
- Frequent startles
- Hypertonicity
- Unresponsiveness
- Tremulousness
- Difficulty in being comforted
- Poor feeding patterns

In the Child

- Impaired play skills
- Small head circumference
- Impaired ability to concentrate
- Impaired social skills
- Difficulty coping with an unstructured environment
- Poor task organization and processing difficulties
- Heightened response to internal and external stimuli
- Problems related to separation and attachment
- Speech and language delays
- Motor development delays

POSSIBLE EFFECTS OF PRENATAL EXPOSURE TO ALCOHOL

In the Fetus

- Miscarriage
- Premature labor
- Stillbirth delivery

In the Infant

- Low birth weight
- Fetal Alcohol Syndrome
  - Growth retardation before and/or after birth
  - A particular pattern of abnormal features of the eyes, face (retarded formation of the midfacial area), and head (suggesting diminished brain growth)
  - Evidence of central nervous system abnormality

- Fetal Alcohol Effects
  - Physical deformities
  - Heart defects
  - Ear and eye defects
  - Joint and limb malformations
  - Mental retardation
  - Cerebral palsy
  - Neurological abnormalities
  - Hemangiomas
  - Irritability
  - Sleep problems
  - Impaired motor development; poor locomotion
  - State regulation disorders
  - Sucking and feeding difficulties
  - Response inhibition
  - Increased risk of child abuse

In the Child

- Hyperactivity
- Reduced body weight, height, and head circumference
- Facial abnormalities
- Mild hearing loss
- Development delays
- Attention Deficit Hyperactivity Disorder (ADHD) (expressed as restlessness, short attention span, distractibility, longer reaction time)
- Learning difficulties

CHARACTERISTICS OF THE SUBSTANCE-EXPOSED INFANT

Physical

- Low birth weight
- Small head circumference
- Impaired motor development
- Seizures and strokes
- Central nervous system (CNS) trauma
- Abnormally formed internal organs
- Rapid respiratory and heart rate
- Irregular sleeping patterns
- Poor feeding patterns
- Hypertonicity/hypotonicity
- Abnormal sucking or swallowing
- Increased risk of abuse and neglect, SIDS, AIDS, and sexually transmitted diseases

Emotional/Social

- Irritability
- Frequent startles
- Unresponsiveness
- Difficulty with being comforted or consoling self
- Frequent gaze aversion
- Poor interactive capacities
- Alterations in bonding and attachment
- Extreme behavior
- Poor control of alertness

FETAL ALCOHOL SYNDROME

Central Nervous System (CNS) Defects

- Neurological abnormalities
- Mental retardation
- Feeding difficulties
- Poor coordination
- Short attention span

Physical Deformations and Growth Retardations

- Facial features
- , Joints, limbs
- Heart
- Head circumference
- Hearing

Behavior Problems

- Hyperactivity
- Short attention span

A pregnant woman's drug use has serious effects on the developing fetus and can have a detrimental impact on the infant. The physiological and psychological effects of prenatal exposure have critical implications for later development as well.

- Identify the possible effects of a pregnant mother's drug use on the developing fetus.

- Identify the possible neurobehavioral problems of the substance-exposed newborn.

- Summarize the impact of neurobehavioral problems of substance-exposed infants on later development.

Directions

View Part II, "The Home and Community Environment," of the training video.

Read Resource Information Part II, "The Home and Community Environment."

Review Figures 1 and 2 and Factsheets C–G.

Complete Worksheet II.

As a baby, the boy had been abandoned for stretches that could last from two hours to two days while his natural mother searched for drugs. Even in his current, loving home environment, he is still afraid he will not find a mother at home when he returns. (Education Week, 1989)

Environment plays a critical role in the life of the substance-exposed child, since it can either lessen or exacerbate the damage that took place in the womb. The child who is moved from one foster care placement to another or who is neglected or abused at home is unlikely to thrive emotionally, intellectually, socially, or physically. A setting characterized by structure, consistency, and love, on the other hand, can go a long way toward ameliorating the difficulties faced by children prenatally exposed to drugs.

Though substance abuse in pregnancy is found in rural, suburban, and urban settings, and among women of all races and economic strata, most studies of substance-abusing pregnant women have involved low socioeconomic status women seeking public aid. These women are similar in several ways. First, they tend to be victims of unresponsive or traumatic rearing environments, without positive role models for parenting. Second, without help, they have great difficulty meeting the special needs of their drug-exposed children. Finally, even when motivated to seek treatment, these substance-abusing pregnant women may have few options, since drug treatment programs often exclude pregnant women.

Professionals who work with substance-exposed children must avoid demeaning appraisals of drug-involved mothers. The most effective effort is one grounded in compassion for the entire family of a substance-exposed child. Essential to the cultivation of this respect is a deep understanding of the struggles of substance-abusing families.

PROFILE OF THE PREGNANT COCAINE ABUSER

The following characteristics are drawn from studies of highly impoverished, substance-abusing pregnant women:

- Have a history of physical, sexual, or emotional abuse
- Are chemically dependent, need treatment, and feel responsible for their problem
- Have parents who probably abused alcohol and other drugs
- Are likely to live with a drug-using partner
- May come from the poorest, most deprived, and most chaotic environments
- Suffer from low self-esteem and a feeling of powerlessness
- Deny their disease and problems
- Do not use social services because of fear of being reported

Source: Kronstadt, D. (1989). Pregnancy and cocaine addiction: An overview of impact and treatment. Sausalito, CA: Far West Laboratory for Educational Research and Development.

THE CHILD'S PLACE IN THE SUBSTANCE-ABUSING FAMILY

The following passage is excerpted from "The Development of Young Children of Substance-Abusing Parents: Insights from Seven Years of Intervention and Research." This article is about substance-abusing families involved in a research/treatment project at the University of California at Los Angeles (UCLA), under the direction of Dr. Judy Howard:

> Substance-abusing parents are unstable, move frequently, lack telephones, fail to keep appointments, and drop out of sight when abusing illicit drugs. Friends and often family collude with the substance-abusing person's flight from representatives of authority structures such as universities, medical and legal systems. We have found, therefore, that it is very important not only to provide clinical services but to provide them through an intervenor who is able to establish an ongoing, stable, nurturing, and non-threatening relationship with the subject.
>
> Substance abuse undermines normal patterns of interaction and alters conventional priorities. The families we have worked with, who are poor and are chronic polysubstance abusers, have multiple legal, social and medical problems. They often come from a history of impoverishment, abuse, and intergenerational chemical dependence. One mother, for example, told us how her mother taught her to shoplift and then to sell the stolen goods on the street. This mother was introduced to heroin by her own father. (In fact, a significant number of parents experienced their first exposure to drugs and alcohol through their own parents' encouragement.) Another mother told us that when she was upset as a child her mother would mix her a drink and say, "Drink this; it will make you feel better." A third mother stated that her own father "shot me up with heroin when I threatened to call the cops on him."
>
> Parents who are addicted to drugs have a primary commitment to chemicals, not to their children. Disruption and chaos in the household often result in the neglect or disregard of the child's needs. For example, a three-month-old baby in one of our research projects was found underneath a bed by a neighbor. The baby's parents and friends were high and consequently not merely inattentive to the baby's needs but completely unaware of the baby's presence. Another mother explained her inability to keep medical appointments for her child because she was out "chasing the bag." Yet another mother explained her pregnancy by stating that "I need this baby to slow me down, to keep me off the streets."
>
> Chronic drug use can impair and distort a parent's thoughts and perceptions. Chronic use of mind-altering drugs can interfere with memory, attention, and perception. Mothers in our studies have had difficulty remembering their own children's birthdates. Safety is an issue for family members, for professional staff who make home visits, and most of all for the children of substance-abusing families. Drive-by shootings and violence where drugs are used and sold are daily occurences in their neighborhoods. Further, children are often in danger because their addicted parents do not function as protectors and advocates. Infancy professionals who have been trained to acknowledge and respect that parents have a primary leadership role in their children's lives must learn to understand that the substance-abusing parent is often unable to assume this primary protective role. The first goal of professionals, therefore, is to keep the child visible in the community in order to monitor the child's safety in a dangerous drug culture.

Source: Howard, J., Beckwith, L., Rodning, C., and Kropenske, V. (1989). The development of young children of substance-abusing parents: Insights from seven years of intervention and research. Zero to Three, 9, 8–12.

SUBSTANCE ABUSE AND TEENAGE PREGNANCY

In a 1989 study of 253 pregnant adolescents conducted at Boston City Hospital, the use of alcohol and illicit drugs was found to be a common and sometimes frequent experience. According to the researchers, the group under study reflected the poor, predominantly black and hispanic, unmarried population served at Boston City Hospital. Their study identified the following characteristics among the adolescents:

- One in six used cocaine during their pregnancies. Slightly over half used alcohol and just under one-third used marijuana during their pregnancies.
- Adolescent drug users received more of their social support from their male partners than nonusers received.
- Adolescent women who used drugs were nearly three times more likely than nonusers to report being threatened, abused, or involved in fights during pregnancy.
- Drug use among pregnant adolescents was closely tied to their partners' drug use. For this reason, it was recommended that intervention and prevention efforts address both the adolescent mother and her male partner.
- A mother's drug use was often an attempt to cope with unhappiness and stress resulting from such difficulties as depression, poverty, poor social supports, and a variety of negative life events.

Source: Amaro, H., Zuckerman, B., and Cabral, H. (1989). Drug use among adolescent mothers: Profile of risk. Journal of Pediatrics, 84, 144–150.

THE RISK OF HIV INFECTION AND AIDS

In addition to other potential problems, a child exposed to drugs in utero is often at greater risk for contracting the Human Immunodeficiency Virus (HIV), the virus which causes AIDS. The risk exists because women who are addicted to cocaine or other drugs often participate in behavior that puts them and their fetus at risk for contracting the HIV infection. High-risk behaviors include participating in unprotected sex with multiple partners and sharing needles to inject cocaine or other drugs. Studies suggest that between 15 and 40 percent of infants born to mothers who are HIV positive become HIV infected. The virus can be transmitted in utero, during birth, and possibly through breast milk.

Source: Falloon, J., Eddy, J., Wiener, L., and Pizzo, P. (1989). Human immunodeficiency virus infection in children. Journal of Pediatrics, 114, 1–30.

SUBSTANCE ABUSE, BONDING, AND ATTACHMENT

Bonding, the process by which an infant develops a sense of trust and attachment to a consistent caregiver, is essential for healthy psychological development. Attachment is defined by Kennell (1976) as "an affectionate bond between two individuals that endures through space and time and serves to join them emotionally." Fahlberg (1979) reports that attachment helps a child:

- Attain his full intellectual potential
- Sort out what he perceives
- Think logically
- Develop a conscience
- Become self-reliant
- Cope with stress and frustration
- Handle fear and worry
- Develop future relationships
- Reduce jealousy

Bonding is often extremely problematic for newborns affected by alcohol and other drugs. These children typically face lengthy hospital stays, return to chaotic drug environments, or enter the foster care system. These circumstances interfere with the development of a strong, secure relationship between the infant and mother or primary caregiver.

In addition, drug-affected babies are more likely to have health problems, be more demanding, and be less responsive and rewarding than even "difficult" babies. The inability of these substance-exposed babies to communicate their needs effectively is often combined with inadequate parenting skills on the part of the caregivers, making bonding even more difficult. Magid and McKelvey (1978) describe this as the "vicious cycle of the non-responsive infant." When a child is not physically responsive, the mother wonders what she is doing wrong. As a mother's feelings of nervousness and anxiety grow, the child becomes nervous and anxious, withdrawing even farther from the mother. Thus, the cycle is perpetuated.

Magid and McKelvey (1978) assert that the "vicious cycle" begins when "the infant has failed, sometime during the first year, to develop a strong internalized parent. As this cycle continues, babies fail to gain a sense of trust." Magid and McKelvey's review of studies on bonding and attachment found that the extent of psychological damage resulting from an infant's failure to bond with a primary caregiver depends on three main factors:

1) **The age of the infant when the bonding cycle is broken.** The younger the infant, the more disastrous the break will be. The first months of an infant's life are the most important for the attachment process, although the process does not seem to be fully complete for about two years.

2) **The length of time the cycle is broken.** If a primary caregiver is gone from the child for only a few hours, little damage is done. But repeated day-long breaks or breaks of several days or more can result in an unattached child.

3) **The basic genetic predisposition of the particular child.** Although its precise role has not yet been determined, genetics is generally believed to be a factor in bonding.

The importance of the relationship between the infant and mother or primary caregiver cannot be understated, since it affects the child's physical, intellectual, emotional, and spiritual development.

Sources: Kennell, J., Voos, D., and Klaus, M. (1976). Parent-infant bonding. In R. Helfer and C.H. Kempe (Eds.), Child Abuse and Neglect. Cambridge, MA: Ballinger Publishing.

Fahlberg, J.V. (1979). Attachment and separation: Putting the pieces together. Michigan Department of Social Services.

Magid, K., and McKelvey, C. (1978). High risk: Children without a conscience. New York: Bantam Books.

RISK AND PROTECTIVE FACTORS

The concept of risk factors that indicate likelihood of future alcohol and other drug (AOD) use was developed by a team of researchers from the University of Washington. J. David Hawkins, Ph.D. and Richard F. Catalano, Ph.D. headed the team and initiated the research. They have described risk factors in two general categories: 1) those that occur in the broad social context or environment in which people develop, such as the community and the neighborhood; and 2) those that lie within individuals, and the individual's relationship to the family, the classroom, and peer groups.

Environmental Risk Factors

- Economic and social deprivation
- Low neighborhood attachment and community organization
- Transitions and mobility
- Community laws and norms favorable toward drug use
- Availability of alcohol and other drugs

Individual Risk Factors

This set of risk factors can be found in several key areas of people's lives—primarily the family, the individual, the school, and the peer group. Many of them forecast juvenile deliquency, as well as AOD use.

- A family history of alcoholism
- Family management problems
- Parental alcohol or other drug use and positive attitudes toward use
- Low commitment to school
- Alienation or rebelliousness
- Favorable attitudes toward drug use
- Friends who use drugs
- Early antisocial behavior
- Academic failure
- Antisocial behavior in early adolescence

Protective Factors

Many young people do not abuse alcohol or other drugs even when exposed to some of the risk factors. Balancing these risk factors in these young people's lives are protective factors, i.e., aspects of their lives that counter risk factors or provide buffers against them. An understanding of protective factors will help in the promotion of positive behavior, health, well-being, and personal success. The Social Development Model developed by Hawkins and Catalano offers a framework for understanding how risk and protective factors fit into the prevention of alcohol and other drug abuse.

Social Bonding

Whatever a family's wishes for personal success for their children, research has demonstrated that positive bonding is a major factor in that success. Bonding must occur in three critically important areas: 1) positive relationships with others; 2) an investment in the future; and 3) a strong belief about what is right and wrong, and an orientation to positive, moral behavior and action.

Positive bonding contributes to personal success. Drug use, friends who use drugs, and favorable attitudes toward drugs can inhibit personal success. Without positive bonds to family, school and community, and in the absence of anti-drug norms, AOD use is more likely to occur.

How does social bonding develop? Three conditions enhance bonding.

1) The **opportunity** to be an active contributor or member of a group. Making a meaningful contribution to the family, school, or community is a key to becoming bonded to that group.

2) The **skills** to be successful in contributing to the group are necessary to promote bonding.

3) A system of **recognition.** Children, like adults, need to know when they are doing well. Praise or recognition reinforces children's efforts and makes them feel accepted and bonded.

All of these help to develop bonding. Research has demonstrated that young people who are strongly bonded to parents, to school, to non-AOD-using peers, and to their communities are less likely to participate in behaviors that threaten those bonds.

Whatever the setting, there are several keys to establishing and upholding positive norms regarding the use of alcohol and other drugs.

Set clear guidelines for acceptable behavior.

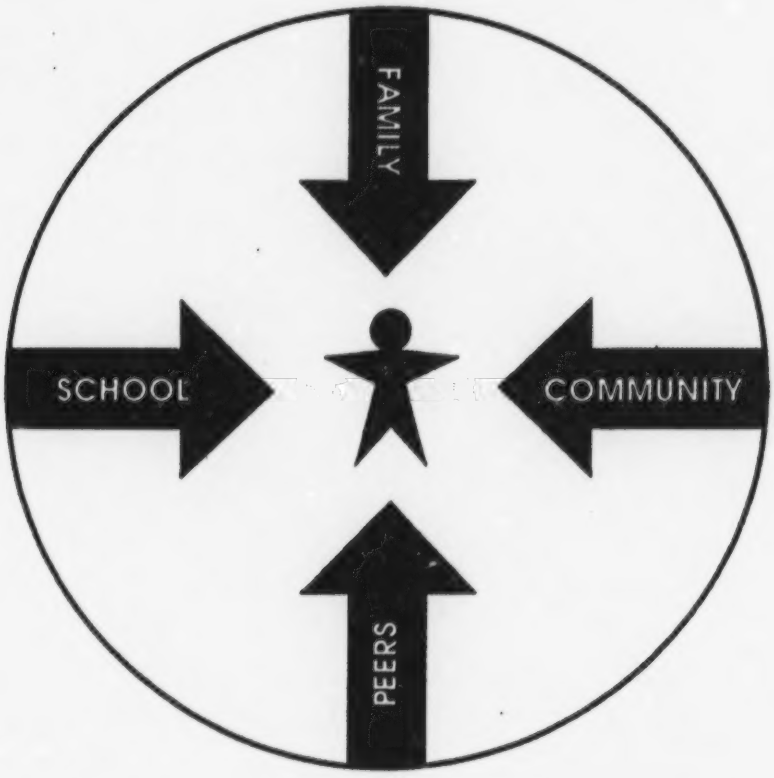
Monitor children's behavior to determine if they are following the policies.

Reward and recognize children for following the policies, and administer consistent, moderate negative consequences for violating the policies.

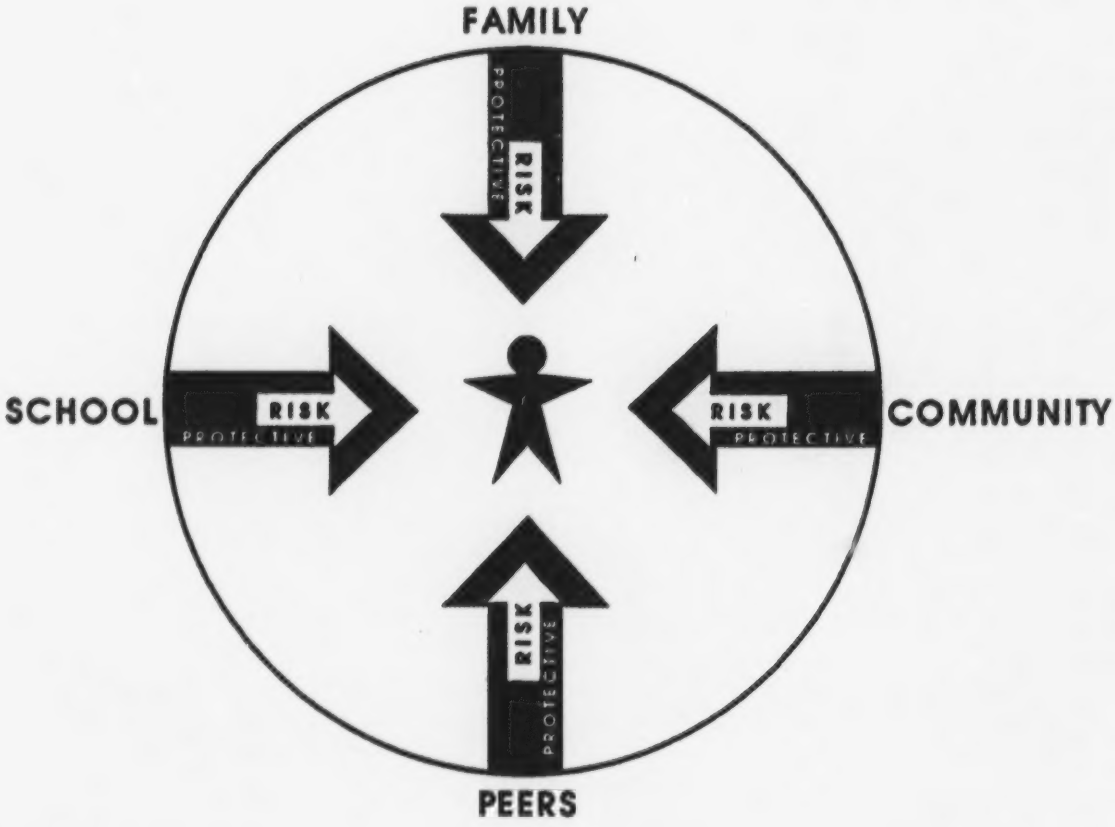
Teach skills for resisting negative influences. Children not only need the skills necessary to be meaningfully involved in their family, school, and community; they need the skills to follow anti-AOD norms. They may know and want to follow their family and school policy against AOD use, for example, but unless they know how to resist peer influences, they are likely to be unsuccessful.

Without positive bonds to the family, school, and community, in the absence of anti-drug norms, and in the absence of skills to promote positive bonds and follow anti-drug norms, AOD use is more likely to occur.

Source: Communities that care: Action for drug abuse prevention guide for community leaders. (1990). Seattle, WA: Developmental Research Programs, Inc.



Circle of Influence



Risk/Protective Factors

RISK FACTORS

Community

- Economic and social deprivation
- Community or neighborhood disorganization
- Lack of employment opportunities
- Lack of involvement
- Easy availability of drugs
- Norms and laws favoring use of drugs

School

- Negative school climate
- Availability of drugs
- Academic failure, truancy, suspension
- Lack of student involvement
- Frequent transitions between schools
- Lack of positive role models
- Inconsistently enforced drug policy

RISK FACTORS

Family

- Alcohol/drug-involved parents
- Low level of quality time/involvement
- Poor communication/parenting style
- Low achievement expectations
- Lack of family rituals
- Frequent and high impact changes
- Stress
- High level of conflict

Peers

- Early antisocial or withdrawn behavior
- Lack of friends
- Favorable attitudes toward drug use
- Early interest in/use of drugs
- Greater influence of friends than parents
- Friends who use drugs

PROTECTIVE FACTORS

Community

- Ensures access to resources
- Provides supportive networks and social bonds
- Involves youth in community service
- Enforces no-use policy
- Facilitates healthy values and norms

School

- Expresses high expectations
- Promotes positive climate
- Stresses support from administration and faculty
- Encourages pro-social involvement
- Provides leadership opportunities
- Fosters active involvement by parents and community
- Offers drug-free activities

PROTECTIVE FACTORS

Family

- Seeks prenatal care
- Establishes close bonds
- Instills healthy values
- Manages stress
- Facilitates high warmth/low criticism parenting style
- Nurtures and supports
- Promotes clear expectations
- Shares responsibilities
- Involves other caring adults

Peers

- Are involved in positive, healthy activities
- Respect authority
- Exhibit high degree of bonding
- Appreciate individual uniqueness
- Disapprove of drug use
- Understand personal risks of drug use

ROLE OF THE SUBSTANCE-EXPOSED CHILD'S ENVIRONMENT

- **Unstable lifestyle**
- **Adults' primary commitment to drugs**
- **Adults' impairment of thought, memory, and perception due to drug use**
- **Lack of safety**
- **Family poverty or preoccupation with money**
- **Lack of nurturing, caring parents**
- **Lack of positive, viable role models**
- **Lack of consistent parents/significant others**
- **Substance-exposed infancy**
- **History of sexual abuse**
- **At-risk grandmothers**

CASE STUDY

Read the following case study and list the risk and protective factors in Angela's life on a separate sheet of paper.

Angela is a five-year-old child who was prenatally exposed to drugs. Her mother, a high school dropout, is in jail for possession of cocaine. Angela lives with her paternal 70- year-old grandmother, who also cares for the child's 6-year-old brother and 18-year-old step-brother. Angela was a low-birth-weight baby, born two months prematurely. She always seems to be "a little slow," as described by her grandmother.

The grandmother is overwhelmed with all her responsibilities, yet keeps a positive attitude. She tries hard to provide a loving and nurturing home. Angela receives a lot of individual attention from her grandmother.

The family lives in a low-income housing development that is surrounded by an area with a great deal of drug-related crime. Because of this activity, neighbors have banded together into a community action team to prevent crime within their neighborhood.

Angela is bused to a preschool. She attends a special intervention class with ten other special-needs children. Angela seems to be a loner and spends most of her play time by herself. Her teacher is extremely interested in providing Angela with an individualized program to fit her needs.

Angela's mother keeps in constant communication with her mother and children. She has been attending classes in jail to obtain her high school diploma. She has been off drugs for a year and plans to go to vocational school and obtain her AA degree in computer science.

Risk Factor List	Protective Factor List

Directions

View Part III, "The School and Classroom Environment," of the training video.

Read Resource Information Part III, "The School and Classroom Environment."

Review Recommendations I and II.

Complete Worksheets III and IV.

Research has shown that the progress of a child prenatally exposed to drugs is more favorable when the child is placed in a predictable, secure, and stable environment. . . . Establishing a strong attachment with each child through understanding and acceptance is the teacher's major priority. Only in the context of good attachment will a child's true potential be realized. (Today's Challenge: Teaching Strategies for Working With Young Children Prenatally-Exposed to Drugs/Alcohol, PED Program, 1990)

Experts suspect that our educational system already contains significant numbers of substance-exposed children. Because most of these children are of normal intelligence, however, the subtle deficits affecting their academic performance may remain undetected. Early research with substance-exposed preschoolers, the oldest group of children being followed by researchers, shows they may need help to function effectively in a traditional school setting. Thus, without assistance, substance-exposed children appear to be at great risk for academic failure and dropping out of school.

The proper school setting can make a great difference in the lives of children affected by their parents' substance use. Structure, consistency, and concern, along with a good deal of individualized attention, are important components of this optimal learning environment.Teachers who work with substance-exposed children should be familiar with related neurological impairments that affect learning and behavior. Rather than working in isolation, they must also be willing to work as part of a multidisciplinary team. In model early intervention programs, the first substance-exposed children under study are responding to such an approach by learning and growing.

WORKING WITH SUBSTANCE-EXPOSED CHILDREN: ROLES OF THE SCHOOL STAFF

The Teacher should

- Support various intervention techniques for the drug-exposed child
- Try new and different methods to meet the child's needs
- Collaborate with a variety of resources and agencies to assist the child's cognitive, physical, emotional, and behavioral development
- Provide an environment that enables the child to progress comfortably and encourages parents to participate
- Coordinate strategies with other school-level support staff to provide a team approach for each child
- Be knowledgeable about information related to identifying the needs of and assisting substance-exposed children

The Counselor should

- Identify signs and symptoms of children needing special assistance
- Use appropriate assessment techniques and intervention with the child and the family
- Provide specialized guidance and counseling in the school setting
- Provide support and guidance for other staff members
- Maintain a list of community resources for information and referral

The Principal should

- Understand signs, symptoms, and needs of drug-exposed children
- Support special curriculum and instructional techniques necessary for use with these children
- Give priority to the affective, as well as academic, needs of drug-exposed children
- Encourage training for staff in dealing with drug-exposed children
- Explore ways to reduce student-staff ratio
- Coordinate multidisciplinary teams

The Child Care Center, Pre-Kindergarten, and Kindergarten Director should

- Recognize that drug-exposed children will need special consideration in both practice and curriculum
- Arrange to provide for such special consideration as far as possible within the center's means
- Use innovative ways of involving parents or guardians in their children's education
- Refer children exhibiting delays or other problem behaviors for diagnostic screening, if necessary
- Make arrangements for outside assistance if deemed important to a child's overall development
- Follow through on a child's referral to an outside source to ensure continuity of care
- Pay special attention to staffing

PROTECTIVE FACTORS FOR AT-RISK CHILDREN

Classroom intervention strategies, to be effective, must attempt to counteract prenatal risk factors and stressful life events. To accomplish this, the teacher must build in protective factors within the classroom environment and facilitate ways for young children to cope appropriately with stress. Self-esteem, self-control, and problem-solving mastery are best achieved when protective factors are coupled with a facilitative approach for improving coping skills. These protective factors are similar to those built into any good preschool program, but because children prenatally exposed to drugs are more vulnerable, it is essential to emphasize the program components.

- ***Respect***

High-risk children need a setting in which nurturing teachers and other adults are respectful of children's work and play space, make realistic demands, and are consistently present in the classroom.

- ***Routines & Rituals***

High-risk children need a setting in which procedures and events are predictable. Providing continuity and reliability through routines, rituals, and scheduling strengthen children's self-control and sense of mastery over their environment.

In staffing programs for high-risk children, not all professionals (speech and language therapist, psychologist, social worker, etc.) are able to come into the classroom on a regular basis. These adults should, therefore, develop a routine for reintroducing themselves and preparing the children for their next visit. Being able to predict the visiting adult's schedule will enhance the child's sense of security.

- ***Observation & Assessment***

The manner in which the child uses skills during play, at transition time, and while engaged in self-help activities is important. Close observation of a child's behavior at these times fosters an understanding of how the child experiences stress, relieves tension, copes with obstacles, and reacts to change. It also provides valuable information on how the child uses peers and adults to meet needs and solve problems.

- ***Transition Time Plans***

At-risk children need a setting in which transition time is seen as an activity in and of itself and has a beginning, middle, and end. Special preparation is given to transition time, recognizing that it is one of the best times of the day to teach children how to prepare for and cope with change and ambivalence. Advanced warnings on starting and ending times should be provided to children.

- ***Adult-Child Ratio***

Children at-risk need a setting in which the adult-child ratio is low enough to promote attachment, predictability, nurturing, and ongoing assistance in learning appropriate coping styles.

- ***Attachment***

Children at risk need a teacher who accepts the child with a history of both positive and negative experiences, including poor attachments and lack of trust. The degree to which children come to trust the world depends, to a great extent, on the quality of care received. When care is inconsistent, inadequate, or rejecting, it fosters mistrust, fear, suspicion, apathy, or anger toward the world and people in particular. These feelings will carry through to later stages of development.

- ***Feelings***

Children at risk need a teacher who accepts that they have negative as well as positive feelings and regards feelings as real, important, and legitimate. Children behave and misbehave for a reason, even if the reason is not understood. In responding to a child's misbehavior, the teacher's first priority should be to acknowledge what the child seems to want before dealing with the misbehavior. This allows children to recognize that their feelings are real and valid. Being understood facilitates self-esteem and promotes a willingness to function within prescribed limits.

Different children respond to stress (internal or external) in different ways, and individual children show different responses to the same stressful events on different days. It is, therefore, important to develop a sensitivity to the particular meaning different stressors have for the individual child and not have a predetermined set of expectations for every child's behavior.

- ***Mutual Discussion***

At-risk children need a teacher who acknowledges that their behavior, feelings, and experiences are open to mutual discussion. Talking about behavior and feelings (done with empathy rather than judgment) validates the child's experiences and establishes an accepting atmosphere. Accepting these feelings leads to the increased ability to distinguish between wishes and fantasies on the one

hand and reality on the other. Verbal expression also fosters the integrating process that increases the child's ability to modulate behavior, gain self-control, and express feelings.

- ***Classroom Rules***

Children at risk need a setting in which the number of explicitly stated rules are limited. By limiting classroom rules, a teacher encourages children to explore and actively engage in their social and physical environment. While it is possible to teach specific objectives by relying on rules to control the child's behavior, it may be at the expense of the child's intrinsic motivation, problem-solving capacity, and self-mastery.

- ***Role Model***

Children at risk need a teacher who understands that his/her behavior is likely to be imitated; therefore, establishing individual, trusting relationships is very important.

- ***Peer Sensitivity***

At-risk children need a teacher who realizes that children become sensitive to and aware of the needs and feelings of others only by repeatedly having their own needs met.

- ***Decision Making***

Children at risk need a teacher who recognizes that it is important to allow students to make decisions for themselves. Freedom to choose and to assume the responsibility for those choices gradually expands children's physical, social, emotional, and intellectual growth and promotes self-esteem, problem-solving mastery, and values.

- ***Home***

The child's home is recognized as an essential part of the educational process. Facilitating parental/caregiver goals helps establish a close working relationship between home and school. Intervention strategies that strengthen the positive interaction between the child and the family increase parental confidence and competency.

- ***Program***

Child-centered programs are critical and best achieved when all professionals concerned are involved with the child and family. To accomplish this collaboration successfully, time must be allotted for teachers to meet and plan with assistants and for social workers, psychologists, speech and language specialists, and adaptive physical education teachers to come together to provide support services in a transdisciplinary model.

- ***Flexible Room Environment***

Children at risk need a setting in which classroom material and equipment can be easily removed to reduce stimuli or added to enrich an activity.

Source: Los Angeles Unified School District: Program for Children Prenatally Exposed to Drugs (PED). (1991). Today's challenge: Teaching strategies for working with young children prenatally exposed to drugs/alcohol. Los Angeles, CA.

RECOMMENDATIONS FOR THE OPTIMAL SCHOOL ENVIRONMENT

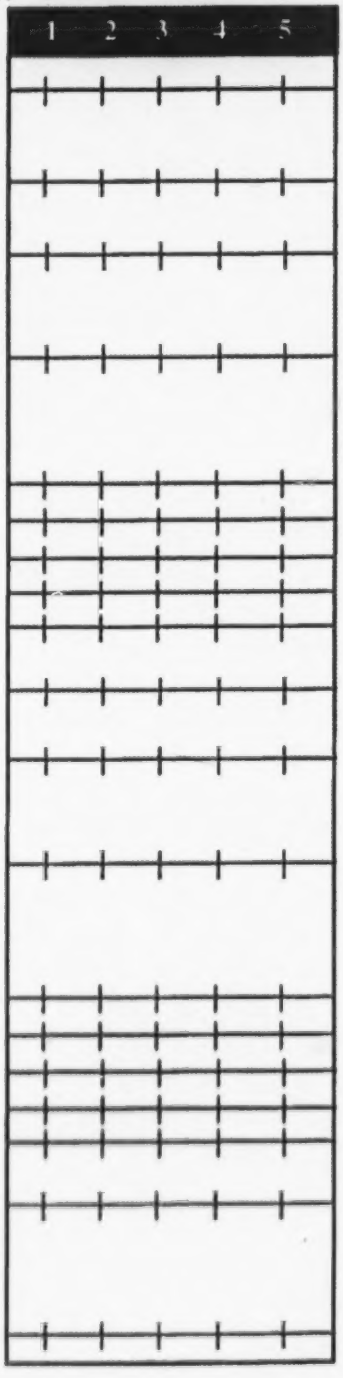
- **Positive and safe school climate**
- **Child-centered structure**
- **Supportive administrators and faculty**
- **Adequate availability/use of resources**
- **Consistently enforced and fair rules**
- **Parent involvement**
- **Access to services for parents needing assistance**
- **School intervention team**

RECOMMENDATIONS FOR CREATING THE OPTIMAL CLASSROOM ENVIRONMENT

- Encourages ongoing positive home/school partnership
- Emphasizes "safety" and protection
- Provides support and emotional reassurance
- Organizes a flexible, yet structured and regular routine
- Uses modeling
- Uses concrete cues
- Allows for isolation
- Responds to and follows child's lead
- Uses contact, mutual touch, and nonverbal positive communication
- "Talks through" events, expectations, etc.
- Allows, identifies emotions
- Promotes independence
- Centers curriculum around child as an individual
- Allows space
- Uses "hands-on" activities
- Acknowledges needs and fears
- Enables expression and communication
- Reflects child's emotions
- Promotes calmness and coping skills
- Redirects behavior
- Exhibits awareness of family constellation
- Models organization skills

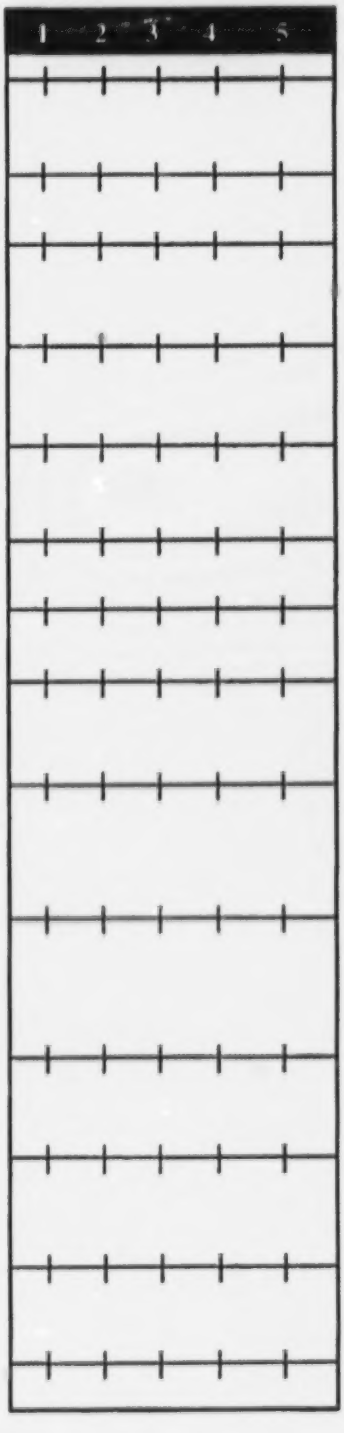
Please respond to the following assessment of your present school and classroom environment. Mark the line next to each survey item using the rating **"5" as strongly agree** and **"1" as strongly disagree**. Do not write in the workbook. Please photocopy Worksheets III and IV.

SCHOOL



1. The overall school climate is positive, student-focused, and open to parents.
2. The organization of the school is structured.
3. The school personnel are student-focused, positive, nurturing, and especially knowledgeable about high-risk youth.
4. The make up of school personnel is adequate to deal with high-risk children.
5. The school has adequate resources to deal with high-risk children.
   a. Funding
   b. Committment
   c. Teacher-Pupil ratio
   d. Volunteers
   e. Staff experience
6. School rules/policies are fair and consistently enforced.
7. All students, parents, and employees are aware of school rules/ policies.
8. The involvement of parents is a school priority.
9. Other services provided by the school are available, accessible, and used by students and parents, including
   a. Comprehensive Health Education
   b. Health Services
   c. Medical Services
   d. Counseling
   e. Healthy Alternative Activities
10. A school intervention team composed of school and community agency personnel meets regularly to identify student problems and behaviors and to develop individualized intervention plans.
11. The school provides a safe environment for students.

CLASSROOM



12. The classroom has a positive atmosphere, is student-focused, and is open to parents.
13. The organization of the classroom is structured.
14. Class schedules and routines are consistent and understood by all students.
15. Interruptions and changes to the class routine are kept to a minimum.
16. Class rules are posted, understood by students, and consistently enforced.
17. Class rituals have been established and implemented.
18. All students feel safe in the classroom environment.
19. The teacher facilitates an atmosphere where students promote kindness, firmness, and empathy for each other.
20. Other school personnel, such as exceptional education, pre-k, and Chapter I teachers; speech and hearing specialists; counselors; social workers; and psychologists, are used as resources.
21. Community agency personnel, such as counselors, public health nurses, and human service providers, are used as resources.
22. Transition time between activities runs smoothly and is treated as an activity with a beginning, middle, and end.
23. Verbal and nonverbal cues are provided to shape student expectations.
24. Academic learning takes place through an overall focus on play.
25. Psychological history data is complete and available on all children within the classroom.

CLASSROOM, continued

	1	2	3	4	5
26. Parent volunteers are involved with student learning.					
27. Each child's personal work/play space is respected and each activity space is well defined.					
28. The adult-child ratio is conducive to an individualized student-centered curriculum.					
29. The home and family are essential components in the curriculum.					

Nurturing school and classroom environments are critical foundations to any effort to meet the needs of high-risk children. Given the key concepts highlighted in Part III of the video and the results of your responses to Worksheet III, complete the following charts by identifying the factors in your school and classroom that act to strengthen or protect a child's development and those that put the child at risk or negatively impact the child.

School Protective Factors	School Risk Factors

Classroom Protective Factors	Classroom Risk Factors

Directions

View Part IV, Section A entitled "Motor Skills Development."

Read the Section in Part IV of the Resource Information on Motor Development.

View Section B entitled "Language Development."

Read the Section in Part IV of the Resource Information on Language Development.

View Section C entitled "Cognitive Development."

Read the Section in Part IV of the Resource Information on Cognitive Development.

View Section D entitled "Social/Emotional Development."

Read the Section in Part IV of the Resource Information on Social/Emotional Development.

Review the Factsheets H–L and Figures 3 and 4.

Use Worksheet VI to complete Worksheet V.

Teachers will have to give special consideration to the psychosocial and emotional needs of these children: It is not enough for teachers to pass information to students, refer an ill-behaved child to a psychologist, or assume parents will deal with their child's classroom behaviors. Teachers may have to cross traditional boundaries . . . . ("Research Bulletin," *Phi Delta Kappa*, July, 1990)

The early years of a child's life are the most important in terms of recovery from stess during prenatal development. An environment that is positive and nurturing will assist the developing child. Conversely, an environment that is unresponsive, highly stressful, and not family-centered may cause a child to shut down, inappropriately compensating for or exhibiting dichotomous behaviors. As a child grows older, environmental changes and demands become increasingly sophisticated and complex. The neurobehavioral and physical problems of infancy can become exacerbated and more pronounced with age. Children who have been prenatally and environmentally exposed to drugs may

- act impulsively
- have a limited attention span
- be unable to modulate their behavior
- have a gravitational dysfunction
- have poor organization skills
- act hypoactively or hyperactively
- have difficulty making healthy attachments

SCHOOL-AGE CHILDREN

Research shows that a child's neurological processes may be affected by early prenatal and environmental exposure to drugs. Prenatally and at birth, a child begins to organize information from his/her own body and environment. This organizational process includes an awareness and acceptance of stimuli and skill in selecting, inhibiting, assimilating, associating, interpreting, and enhancing information.

In order to accomplish these tasks, the Central Nervous System (CNS) needs to be flexible, yet able to reach homeostasis, a state of equilibrium, at certain critical points as information is learned. If there exists any stress on the CNS, such as that caused from prenatal and environmental exposure to drugs, a child may have difficulty processing bodily sensations and external stimuli. As a result, the ability to identify, modulate, and regulate information coming in through the senses can be adversely affected.

During the first few years of life, especially in a home environment where drugs are a factor, delays in development may not be blatantly apparent. When a child enters the school system, however, difficulty in processing information will become evident. Most noticeable will be the inability to attend to a task for an adequate length of time, to organize information in a meaningful way, to be aware of exposure to relevant stimuli, to understand and remember information, and to successfully follow through on a task from beginning to end in a logical, sequential system. Any difficulty in processing external information will most likely affect the following:

- Motor development
- Language development
- Cognitive development
- Social/emotional development

MOTOR DEVELOPMENT

According to Espenschade and Eckert (1980), motor skill development "proceeds according to the laws which govern the physiological maturation of the child, with the development of movement patterns progressing from simple arm or leg actions to highly integrated total body coordinations."

An infant learns through sensations of movement, which depend upon the ability of the central nervous system and brain to process and integrate messages received and send back an appropriate motor act response. Voluntary motor activity is controlled by the cerebral cortex, and unconscious muscle movement is controlled by the cerebellum and parts of the brain stem.

The rate of motor skill development depends on the stage of brain development as well as the quality of the environment and opportunity for and encouragement of motor use. Environmental factors such as the mother's prenatal care and health while pregnant; amount of sleep, exercise, medical care, nutrition, and stimulation and reinforcement the child receives; and the number of environmentally protective factors all affect motor development. Although the *rate* at which a normal child progresses depends on the child, the *sequence* of skill mastery remains fairly constant.

Motor skills are usually divided into the following two general categories:

Gross Motor Skills—Activities that involve the use of large muscles—neck, trunk, arms, legs—and include the ability to roll, crawl, creep, walk, run, hop, jump, skip, climb, push, pull, and lift.

Fine Motor Skills—Activities that involve the use of small muscles—eyes, mouth, hands, fingers, feet, toes—and involve movements such as focusing, sucking, grasping, releasing, pinching, writing, cutting, and copying. These activities require perceptual-motor, visual-motor, sensorimotor, ocularmotor, and eye-hand coordination.

Problems with motor skill acquisition can originate in the prenatal, perinatal, or early postnatal periods. Deficits in muscle tone-hypotonicity (flaccid muscles) and hypertonicity (stiff and rigid muscles) have been observed in the substance-exposed infant and child, especially if therapeutic intervention has not been provided. Hyperactivity, minimal brain dysfunction, and attention deficit disorder (ADD) are generally characterized by excessive motor activity. Many substance-exposed children have been described as having "hyperactive-type" behaviors.

In planning an educational program for substance-exposed children, it is critical to assess how the absence or delay of motor skills will affect learning. Some motor skill behavior indicators include

- Delayed milestones
- Abnormal posturing of limbs

- Significant differences in skill between left and right limbs
- Poor balance
- Lack of coordination
- Difficulty with eye tracking
- Poor fine/gross motor activity
- Poor muscle control
- Muscle weakness or lack of strength
- Poor visual-motor integration

Effective observation of motor skill ability is critical. Observation should include the approach to and process of performing motor tasks as well as achievement of tasks. Classroom interventions to strengthen motor skill development should

- Stimulate/reinforce normal developmental sequences
- Nurture optimal motor development integrated with other functioning areas
- Use multisensory approaches that enhance the ability to improve motor output
- Break tasks into simple, sequential tasks that are paced according to the child's level of functioning at any given moment
- Allow time for repetition and modeling
- Ensure that each activity (and possibly, each step of an activity) has a beginning, a middle, and an end
- Emphasize tactile activities
- Promote learning through guiding

Coordination of movement skills contributes to the development of confidence and trust in oneself and one's body. Substance-exposed children with motor difficulty are therefore likely to be limited in ability and self-esteem. Helping these children become aware of body parts and their functions in relation to one another and assisting them to develop their motor skill competence will increase self-image.

LANGUAGE DEVELOPMENT

Communication involves two general skills:

Receptive Ability — To understand the intent and meaning of someone else's language.

Expressive Ability — To send communication in a manner that can be understood.

Being able to send and receive messages that result in successful communication requires

Auditory Memory — The ability to recognize and/or recall stimuli presented orally.

Auditory Association — The ability to recognize relationships between what is heard and what is seen.

Language subskills that should be developing during the first five years of a child's life include

Pragmatics — Learning to use the appropriate language within social contexts. The individual refers to rules, patterns, and verbal and nonverbal cues to make a selection.

Semantics — Learning the meaning of words.

Syntax — Learning the rules for structuring language, word order, etc.

Morphology — Learning the rules for changing the forms of words (tense, case, possession, etc.).

Phonology — Learning the sound systems (pitch, rhythm, patterns, etc.).

Auditory Discrimination — The ability to differentiate between and among various sounds and to hear likenesses and differences.

Visual Memory — The ability to recall information that has been presented visually.

Visual Discrimination — The ability to differentiate between and among various shapes, sizes, colors, numbers, and letters.

The process of learning language begins long before the onset of conventional speech. Research on mother-infant interaction indicates that the environment during the first two years is the most critical to later development of language and social skills. How perlocutionary behaviors (crying, cooing, smiling, gazing, and reaching) during the first months of life and illocutionary behaviors (intentional communicative behaviors) are responded to by caregivers greatly influences later language development. If the child's early environment is a nurturing and responsive one, he or she will be more motivated to develop language.

Several conditions are necessary in order for language skills to continue to develop. The sensory and CNS systems must be intact. The ability to not only receive incoming information, but also to integrate it is critical. The language developmental process involves refined motor skills—timing and control strength—of the tongue, lips, jaw, velum, larynx, and muscles of respiration. The content of the child's language is dependent on his/her ability to represent, organize, understand, and recall. The child must be willing and have many opportunities to practice, respond to, and be responded to within a nurturing environment. Lack of appropriate stimulation limits cognitive and language development.

Audio-perceptual-visual impairments produce language disorders, including

Delayed Language — Slowness in the onset and development of language necessary for verbal expression and reception.

Learning Disabilities — Interference with the ability to understand the messages that are heard and viewed.

Aphasia — Loss of speech and language abilities after brain damage.

Many children who have been prenatally or environmentally exposed to drugs have been raised in limited stimulative environments. Caregivers may have been unavailable emotionally or physically absent. Consequently, these high-risk children may not have had anyone to talk to or listen to them or access to an adult or other siblings who could act as role models for the development of

language. The lack of motor skills, essential in language ability, may also have acted to exacerbate the problem and delay skill mastery.

School-age substance-exposed chidren may exhibit any of the following language behaviors:

- Delayed receptive and expressive language
- Inability to follow verbal directions
- Prolonged infantile articulation
- Difficulty expressing needs, wants, and feelings
- Preference for solitary play
- Inappropriate communication with peers (verbal and physical aggression)

To address these problems, an individualized plan for language stimulation should be developed for each child that includes an array of the following possible interventions:

- Encourage language expansion through techniques such as **self-talk** (adults verbalizing what they are doing while they do it), **parallel talk** (adults talking about what the child is doing or has just done), **corrective echoing** (adults correctly repeating what the child says incorrectly), and **matching** (adults replying to the child's words with a more elaborated response)
- Use eye contact
- Give step-by-step directions at a rate regulated by the child's ability and readiness
- Respond immediately to/reinforce attempts at communication
- Acknowledge needs, wants, and fears through discussion
- Map language as a tool for further and personally relevant learning
- Modify interaction in response to the child's negative cues (gaze aversion, body tension, lack of response, etc.)

COGNITIVE DEVELOPMENT

Meisels (1979) defines "cognitive development" as "the reorganzation of psychological structures that results from interaction between the organism and the environment." The cognitive development of young children is evidenced in their attempt to use information in solving problems.

As a child grows, he/she progresses through stages that represent changes in the organization of thoughts. The rate of progress, different for each child, can be influenced by genetic, physiological, and environmental factors. According to Piaget's hierarchial sequences (Espenschade and Eckert, 1980), the child progresses through the following three periods from birth to age seven. Tasks within each stage will develop at different rates.

Sources: Meisels, S.J. (ed.). (1974). Special Education and Development. Baltimore: University Park Press.

Espenschade, S., and Eckert, H. (1980). Motor Development. Columbus, OH: Merrill Publishing.

Sensorimotor Period (birth to two years) — Uncoordinated and undifferentiated sensory impressions, followed by the ability to perceive and manipulate objects with an understanding of cause and effect.

Preconceptual Period (two to four years) — Development of the ability to form mental symbols (language stands for things not present). Thinking, though, is still dominated by what is perceived directly through the senses.

Intuitive Period (four to seven years) — Language is used for socialization. Focusing expands to more than one stimulus or attribute at a time. The understanding of constancy is developed.

Two basic mental operations are involved in cognitive development. Through *assimilation*, information is perceived and interpreted according to existing structures. *Accommodation* results when a new mental structure is created for new information.

The development of attention skills, perceptual skills, and memory skills is paramount in cognitive development. Attention is a two-part skill that involves focusing on the relevant information and ignoring the irrelevant. Attention deficit disorders are common in young children and related to the tendency to become fixed on irrelevant stimuli or preoccupied with a multitude of incoming information. When children are able to attend to relevant information, they perceive or interpret it through the sensory integration process. For information to be interpreted, some meaningful information must be stored. Interpretations or perceptions differ with each individual, depending on what is stored and the strength of the individual's visual, auditory, or kinesthetic ability.

Certain basic conditions are necessary for encouraging cognitive skill development.

- Freedom from fear of failure
- Opportunities to experience and be challenged
- Encouragement and reinforcement

Just as with children who are not exposed to drugs prenatally or environmentally, the rate of progress for substance-exposed children may be influenced by genetic, physiological, and environmental factors. Children who have been prenatally exposed to drugs or have lived in an environment where drugs were prevalent are especially vulnerable. Often they experience a great deal of fear, which causes them to be anxious about trying new experiences. Extreme behavior may be evident in withdrawal from challenging activities or aggressive overcompensation. Many times, a positive adult role model is not emotionally or physically available to reinforce a child's trial and error, making learning a solitary experience.

Since prenatal drug-exposure has a negative impact on the developing fetus and the brain, the central nervous system may be adversely affected. Physiological damage or trauma may delay significant gains in cognitive development.

A substance-exposed child in an educational setting may exhibit any of the following behaviors:

- Distractability or inability to attend to a task for a long period of time
- Difficulty with nonstructured events or experiences
- Inadequate trial-and-error or problem-solving skills
- Inability to follow through and complete a task
- Tendency to give up easily and withdraw or become visibly frustrated or "act out"
- Sporadic skill mastery
- Difficulty sitting or being in one position for a long period of time
- Lack of regular patterns of behavior
- Problems with change in routine, schedule, or events

To address these problems, teachers and others who work with a substance-exposed child should

- Prepare the child for any change with warnings of changes at regular intervals
- Treat any activity, including transitions, as having a beginning, a middle, and an end
- Provide a schedule of events
- Model trial-and-error/problem-solving skills
- Stress the problem-solving process, not just the result
- Talk children through tasks, events, etc., as they occur
- Ask the child to talk through tasks, events, etc., as they occur
- Use concrete, verbal cues
- Limit change and interruption to routines
- Model appropriate behaviors and guide children to redirect inappropriate behaviors

SOCIAL/EMOTIONAL DEVELOPMENT

One of the most influential factors in development is the early attachment bond between the child and parent or caregiver. The strength of this critical bond has a major impact on the child's sense of trust, which leads to the willingness to initiate or engage in an activity or communication; feelings of self-worth; independence; and ability and desire to relate to an adult, peer, or significant other. If a child's sense of trust has been disturbed, he or she becomes insecure with the sense of self and the caring of others.

Any breakdown, even as early as infancy, in the signaling and response system between the mother or primary caregiver and the child may affect the bonding and attachment process. This two-way process between mother and child is a constantly changing reciprocal relationship. As cues are given, a response is given. Whether cues are easily read and provided depends on many variables: skill in recognizing cues, sensitivity to and availability of reinforcement, ability to accept stimuli, and past learned patterns of behavior.

All of these variables must be considered, along with any physiological problems that an infant exposed prenatally to drugs is likely to have. If the mother, caregivers, or significant others remain drug-involved and create an environment where drugs are a factor, the dependent variables for healthy bonding and attachment will most likely be adversely affected.

A healthy environment assists in strengthening social and emotional development. A nurturing caregiver is critical for providing the child with a positive role model and the opportunity for expressing feelings, developing self-identity, and accomplishing new tasks. Other important elements in a healthy environment for a young child include consistency, routine, limits, and constructive consequences.

A structured environment allows the child to predict, know what to expect, and know what is expected. Being able to know boundaries and parameters and to make predictions leads to feelings of safety, one of Maslow's (1968) basic needs. A constant state of turmoil forces the child to be cautious, even hypervigilant over a constantly changing environment.

Source: Maslow, A. H. (1968). Toward a psychology of being. New York: Van Nostrand Reinhold.

Children who come from unhealthy environments, especially those where drug use is a controlling factor, may exhibit the following social and emotional behaviors:

- Little use of adults for comfort, approval, or identity
- Failure to respond to reinforcement or praise
- No particular or consistent preference for an adult, peer, or object
- Difficulty reading signals or cues
- Extreme range of emotion from withdrawal to aggression or fear
- Failure to comply with rules or limits
- Inability to identify or express feelings
- Poor inner control
- Overreaction to separation from adult or caregiver and to change in routine
- Difficulty expressing empathy toward another peer
- Overdependency on adults for decisions, problem solving, or task accomplishment

Considering the difficulties of a child who was prenatally or environmentally exposed to drugs, a teacher should provide the following interventions:

- Respond with predictability and regularity
- Elicit eye contact
- Talk the child through actions, limits, and consequences
- Guide the child and enforce consistent behavior limits
- Respond within the child's limits of touch
- Teach the child to read and respond to cues
- Assist the child in identifying, verbalizing, and appropriately acting on feelings

- Assist the child in self-regulation of extreme behavior
- Provide opportunities for safe expression, trial and error, and limited choices
- Center activities around the child as an individual
- Allow each child to have his/her own personal space and possessions

Source: Cook, K., Tessier, A., and Armbruster, V. (1987). Adapting early childhood curricula for children with special needs. 2nd ed. Columbus, OH: Merrill Publishing.

CHILD-CENTERED CURRICULUM

The goal of any educational program should be to enhance a child's ability to learn. A child who is at risk due to prenatal or environmental factors will most likely have special needs that should be considered when planning an educational program.

In a high-risk child's early years, he/she may operate (i.e., perform, integrate, process, communicate, etc.) in response to the impact of drugs and other stressors within his/her world. A child exposed to many risk factors, such as prenatal, home, and community environmental substance-exposure, will probably not be able to automatically enter school with adequate readiness skills. An educational environment must, therefore, be developed that takes into account the risk factors in a child's life, such as exposure to substances, and the educator's role must include assisting the child to adjust to and regulate his/her own behavior to fit within a "normal" environment where risk factors are minimized.

A classroom environment and learning program must be a low-stress arena in which a child can learn and develop motor, cognitive, language, and social-emotional skills. A child must be assisted in adjusting to the classroom environment, a process that will most likely include finding the threshold or boundaries in which the child is comfortable to operate and learn.

For many high-risk children, an educator will have to read verbal and nonverbal cues early on in order to gauge a response. At any given point, a child may need to be guided, left alone, or assisted with an intervention by the educator. The external environment (physical structure and setup), the task or event at hand, and the behavior of children and adults may need to be modified so as to be more accommodating of the child's threshold. Although the overall environment must be consistent and safe, the boundaries within will change based on the child's state. This child-centered approach, although time-consuming, will in the long run elicit maximum learning and development from each child. With an ongoing child-centered developmental intervention plan, the child will be more able to regulate his/her own behavior.

Overall educational strategies to assist a child in learning to self-regulate his/her behavior include

- Being predictable
- Developing an overall framework in which the child can work
- Assessing a child's overall style, abilities, needs, delays, etc.
- Setting up an external environment that is safe, routine, yet challenging
- Building boundaries based on the child's abilities

- Allowing the child to pace his/her own learning
- Reading verbal and nonverbal cues before the behavior is actualized
- Keeping a child below his/her tolerance threshold
- Facilitating a maximum comfort level for each child
- Unifying the child-centered approach with all significant individuals in contact with the child

READINESS BEHAVIORS FOR SCHOOL ACHIEVEMENT

- **Follows directions**
- **Concentrates through task completion**
- **Observes and remembers**
- **Contributes to conversation**
- **Directs and focuses attention**
- **Tolerates failure**
- **Persists with a task**
- **Makes transitions easily**
- **Accepts adult direction**
- **Works independently**
- **Accepts routine and limits**

MOTOR DEVELOPMENT

Behaviors

- Clumsy movement
- Difficulty with tracking
- Immature grasping skills
- Difficulty in manipulating objects
- Delayed milestones
- Poor balance, muscle control
- Lack of coordination
- Poor visual-motor integration

Interventions

- Reminds children of obstacles
- Allows time for repetition and modeling
- Guides children through steps and rhythm
- Teaches body control through play
- Uses multisensory approaches
- Breaks tasks into simple, sequential activities
- Refers child to occupational specialist

LANGUAGE DEVELOPMENT

Behaviors

- Delayed expressive/receptive language
- Problems with following directions
- Prolonged infantile articulation
- Difficulty expressing wants, needs, and feelings
- Tendency to observe rather than participate

Interventions

- Elicits eye contact
- Gives step-by-step directions
- Provides words to identify
- Models appropriate behaviors
- Processes what happens
- Acknowledges attempts to communicate
- Reflects child's feelings back
- Ignores inappropriate and reinforces appropriate action
- Removes child from hostile/problem scene
- Takes time to talk to the child
- Refers child to speech/language specialists

COGNITIVE DEVELOPMENT

Behaviors

- Distracted by sounds and people
- Poor visual scanning
- Inadequate trial/error and problem-solving skills
- Longer time for task completion
- Tendency to give up, become easily frustrated
- Sporadic mastery, lack of learning pattern
- Withdrawal from activity
- Inability to cope with change
- Difficulty with ending tasks

Interventions

- Limits interruptions and distractions
- Establishes routine and structure
- Asks other children to model appropriate completion of tasks
- Uses concrete verbal/nonverbal cues
- Praises process and outcome
- Asks child to process task steps
- Talks child through steps
- Protects child from under/overstimulation
- Provides schedule and prepares child for change
- Identifies processes and guides
- Uses mapping and branching
- Treats each activity as having a beginning, a middle, and an end

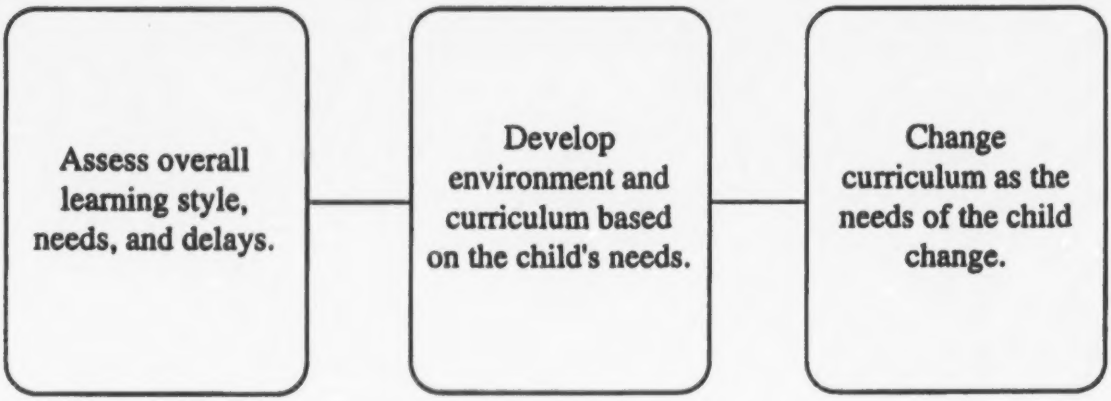
SOCIAL-EMOTIONAL DEVELOPMENT

Behaviors

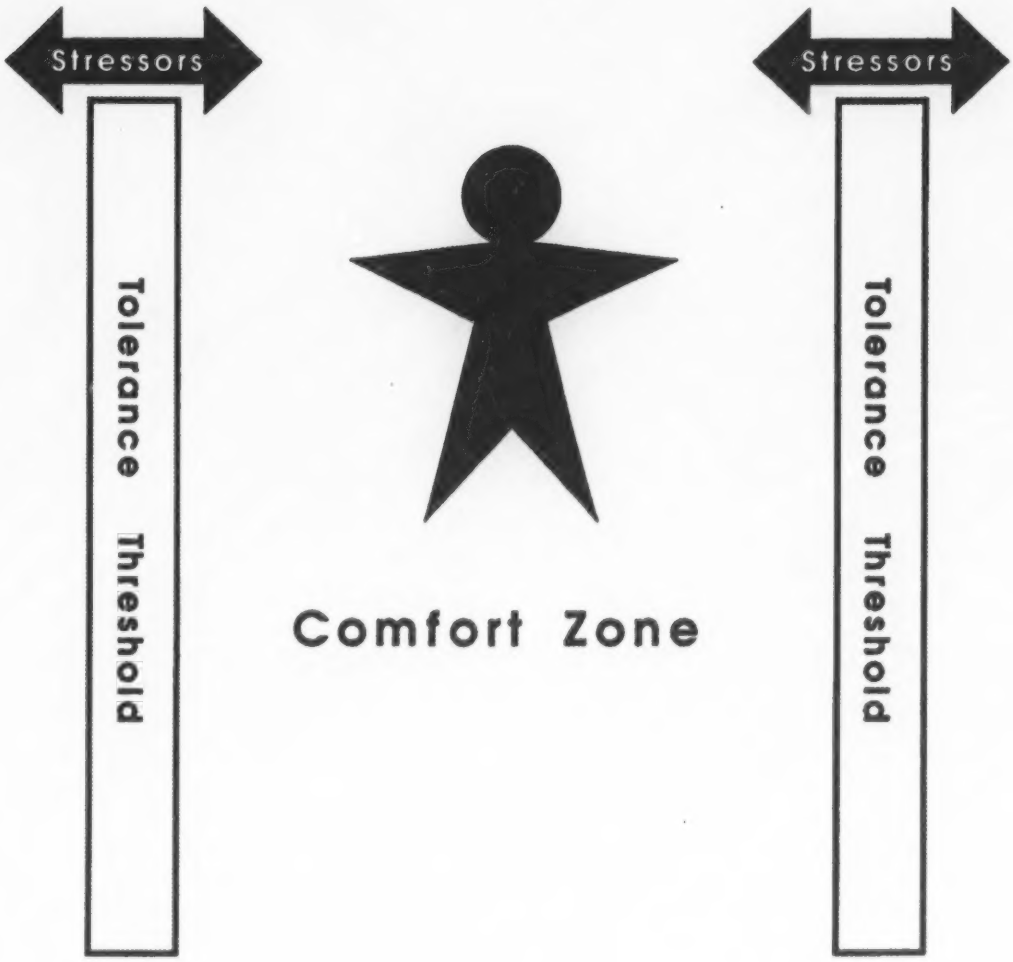
- Indiscriminately attaches/bonds
- Fails to respond to adult-given reinforcement
- Disregards verbal/nonverbal cues
- Is noncompliant with commands
- Makes little use of adults for comfort, play, and approval
- Exhibits a restricted range of emotion
- Exhibits an extreme range of emotions
- Has difficulty with expressing emotions appropriately
- Has poor inner control
- Demonstrates separation anxiety
- Has difficulty expressing empathy
- Exhibits gaze aversion

Interventions

- Accepts child's limit of touch
- Responds consistently
- Talks through behavior, consequence, and feelings with the child
- Guides child and enforces behavior limits
- Assists child in identifying feelings
- Provides opportunity for safe expression
- Elicits eye contact
- Models emotions and response to cues
- Assists child in self-regulation
- Centers activities around child
- Allows child to have own space
- Refers child to school or community resource


Assess overall learning style, needs, and delays.
Develop environment and curriculum based on the child's needs.
Change curriculum as the needs of the child change.

CHILD-CENTERED CURRICULUM



SELF-REGULATION SYSTEM

Use the case studies described on Worksheet VI to design a child-centered developmental plan for the targeted child described within the case study. Please photocopy. Do not write in the workbook.

Case Study # _____ **Name of Child** _____

List and describe the community and home risk factors of the child.

List and describe the community and home protective factors of the child.

List or describe the behaviors/needs/developmental delays of the targeted child and the intervention strategies that will be developed and implemented. Include classroom environmental changes that will be used and plans for a child-centered developmental curriculum.

Behaviors/Needs/Developmental Delays	Developmental Strategies

CASE STUDY 1 — MARLA

Marla is a four-year-old female child in a pre-kindergarten classroom. She was referred by the local health and human service agency to attend school. She lives with her mother, grandmother, and a baby brother who is three months old. Often, for long periods of time, the grandmother is the caregiver for two more grandchildren, a five-year-old boy and an eight-year-old girl. Both Marla's mother and aunt have a history of being drug-involved—as actual users and having friends who use drugs. The grandmother is semi-handicapped with extremely poor vision. Marla's mother has her high school diploma and is currently working as a clerk in a convenience store. The family lives in a neighborhood that has recently been cleaned out through local police sweeps, but has the reputation as a high-crime and drug-activity area.

Marla originally was referred to the school program because she was assessed as being at risk due to low birth weight. She has been in the program for three months and has exhibited some developmental delays and high-risk behaviors.

Marla is small for her age, but can perform many motor tasks well, particularly those using the large muscles. She is very coordinated in outside play activities, such as jumping, running, balancing, and throwing, but she is not yet able to accomplish some of the fine motor skills, such as cutting. She gets extremely upset when she is unable to do some of the activities that the other children at her age can do.

Marla is an extremely social child, who loves to be with her peers, and especially likes to "rough house" with the boys during outside play. She is seen as a leader. Often, Marla becomes too aggressive and sometimes physically hurts one of her friends in "play." This aggressive behavior also is exhibited at other times, when she is interacting with a child and becomes angry or frustrated. A few times the violent behavior continued for a very long period of time and then suddenly disappeared as Marla withdrew into a very quiet state.

Marla has had a very difficult time learning concepts such as colors, numbers, etc. Sometimes she even forgets the names of other children in the class. She becomes frustrated during any activity time, unless it involves physical activity. One of the worst times for Marla is during unstructured activities. She also gets bored easily, especially when the teacher is directing a task with verbal instructions or when another student or teacher is explaining, talking, or reading aloud. Adult modeling or instruction has not seemed to make a difference in the rate of learning steps to skill achievement or remembering the process of accomplishing a skill.

Marla has average verbal skills. She can speak effectively and communicate her needs, although her listening skills are not as strong. She does not attend to expressive language long enough to process and integrate the information for a response. Therefore, Marla often acts as if she is in her "own world" and other peers or adults do not exist.

CASE STUDY 2 — DONNIE

Donnie is a six-year-old male child in a kindergarten class. He did not attend a school-based pre-kindergarten program, although he did attend various day care programs since he was a baby. Donnie lives with both parents and a seven-year-old sister who is in first grade at the same school. His mother works part time as a secretary; his father is "self-employed." The family lives in a lower middle-class neighborhood, with a mixture of blue-collar and white-collar families. Many times the teacher has tried to contact the parents but has been unsuccessful. The telephone has been disconnected once and it was busy all day/night one day. The mother has not returned messages left at her office, nor has the father answered his "beeper" pager.

Both children are new to the school this year. The school records of the oldest sister list attendance at three schools the previous year. Information from those schools is sparse. Donnie is an extremely shy and withdrawn child. Because he is large in weight for his age, many of the other children avoid him. He seems to be happy entertaining himself.

Donnie avoids physical activity during free play. When he does use his large muscles in an activity, Donnie is clumsy and uncoordinated, and the other children make fun of him. Donnie prefers to sit alone and color, draw, or construct objects from bits of paper. His arts and craft work is very good and quite detailed.

Donnie is not comfortable around the other children or adults except the teacher. When there has been a change in routine, a lot of noise and confusion during activity transition, and abrupt interruptions Donnie "flies to the teacher's arms." He seems nervous and afraid, yet is unable or unwilling to verbally express his feelings.

Donnie grasps new concepts easily when he is alone or in a one-to-one instruction mode with the teacher. He has had problems learning concepts in which the style of presentation involved many objects from which to choose or multiple stimuli. As Donnie performs tasks for the first time using trial and error, he gets easily confused. He seems unable to separate out information and attend to only that which is needed to accomplish a task.

When Donnie is willing to speak, he shows a tremendous capacity to listen and integrate a lot of information at one time and remember it. Often a lesson or conversation that takes place is remembered later in great step-by-step detail by Donnie.

Donnie still exhibits a tendency toward "baby talk" and often retreats into his world and sucks his thumb. Donnie's sister always escorts Donnie to and from class. She is very verbal, outgoing, and mature for her age. She seems to take her responsiblity to "take care" of her little brother very seriously, acting like a "little mother."

GLOSSARY

***Abruptio Placentae*:** Refers to a premature separation of the placenta from the uterine wall during pregnancy. The effects of this separation on the fetus and the pregnancy will vary depending on the extent and timing of the separation. Research has linked cocaine abuse during pregnancy to an increased incidence of *abruptio placentae*.

Addiction: The dependency, use, or compulsion to something, in this instance alcohol or other drugs.

Attachment: Attachment refers to the development in the infant of emotional ties to specific people and is believed to play a critical role in the emotional development and stability of the infant/child. Attachment is commonly measured by the degree to which the infant seeks physical proximity to and derives feelings of security from the attachment figure. Although attachment will occur under a variety of circumstances, the child's emotional development is optimized by having consistent, nurturing, predictable caretakers who are responsive to the needs of the child.

Bonding: The early development of positive feelings between the caregiver (usually the mother) and the infant. These feelings are enhanced by physical contact with the infant in the forms of snuggling and stroking and by mutual gaze between the caretaker and infant.

Child-Centered: Activities or procedures that are developed around the needs of a child.

Comfort Level: A state that is desirable and produces positive emotions and responses. Falling below or above a comfort level conversely results in negative state.

Environmental-Exposure: The effects of substance use by family and other members of the community on a child and his/her environment.

Fetal Alcohol Effects (FAE): FAE refers to children whose mothers used alcohol during pregnancy but the children show some but not all of the physical and behavioral symptoms of FAS. (For a more detailed definition and description of both FAS and FAE see Burgess and Streissguth, 1990.)

Fetal Alcohol Syndrome (FAS): FAS is a physical condition in a child caused by heavy maternal alcohol consumption during pregnancy. To be diagnosed as FAS there must be a history of maternal drinking and the child must display growth deficiencies, specific facial dysmorphology and other physical abnormalities, and central nervous system dysfunction.

Gaze Aversion: Gaze aversion refers to a distress signal commonly used by infants during the first few months of life. Infants approaching their threshold for overstimulation (especially during face-to-face social interaction) will look away from the source of stimulation thus signaling their need for "time out" from the interaction.

Hypertonicity: Hypertonicity refers to individuals with high or stiff muscle tone. Infants with hypertonicity may spend a great deal of time arching their backs and extending their arms and legs. Their stiffness may become particularly noticeable when they are excited or upset. This hypertonicity may interfere with the development of normal motor activities such as midline play, crawling, and walking.

Hypotonicity: Muscle tone refers to the underlying or resting tone of an individual's muscles as effected by the central nervous system. Hypotonicity specifically refers to people with low central tone. Infants with low tone are frequently called floppy babies because of their difficulty in holding their heads upright and sitting up. Hypotonic infants will often appear hypotonic in their arms and legs as they tense these muscles in an attempt to help support themselves while in unsupported sitting positions.

Prenatal-Exposure: The susceptibility of a fetus to harmful substances while in the mother's womb.

Protective Factors: Those characteristics of an individual and his/her environment that increase resiliency to the detrimental effects of risk factors.

Risk Factors: Those characteristics of an individual and his/her environment that increase the likelihood of alcohol or other drug abuse.

Rituals: A detailed method or procedure faithfully or consistently followed.

Self-Regulation: The ability to regulate one's own feelings and attitudes into desired and appropriate behaviors that are positive and satisfying.

States: Refers to the various states of arousal exhibited by the infants. These are most often divided into six types including deep sleep, active sleep, drowsy, quiet alert, active alert, and cry. The quiet alert state is the state during which the infant is most available to interact with and learn about his/her world.

Substance-Exposed: The act of being introduced to chemical substances either through direct intake, prenatal intake from a mother to a devleoping fetus, or being in the presence of another individual who is using chemical substances.

Teratogenicity: Teratogenicity refers to the degree which a drug causes deviations in normal prenatal development. The effects of a teratogen may vary with the dosage and/or timing of exposure as well as with the genotypes of mother and fetus and the overall health of the mother. Research has demonstrated that alcohol has a high degree of teratogenicity. To date, however, there is no clear data concerning the teratogenicity of drugs such as cocaine and marijuana.

Threshold: The intensity below which a mental or physical stimulus cannot be perceived and can produce no response.

Tolerance: The physiological adjustment to accommodate the continued use of a drug whereby the user must take a large dosage to achieve a desired effect.

Toxicity: Toxicity refers to the degree to which a drug has direct deleterious psychopharmacological effects on the mother and/or infant. Chronic cocaine use, for example, leads to a depletion of the neurotransmitter dopamine in the nervous system of the user. This dopamine depletion is in turn believed to cause depressive symptoms in the user. Toxic effects of drugs may or may not be reversible.

Transition: An act, process, or instance of changing from one state, form, activity, or place to another.

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